

**ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM**

Plant Abstract

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CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Astragalus hypoxylus* Wats.
COMMON NAME: Huachuca Milk-vetch
SYNONYMS: *Hamosa hypoxylus*; *H. hypoxyla*; *Tragacantha hypoleuca*
FAMILY: Leguminosae

AUTHOR, PLACE OF PUBLICATION: Watson, S. 1883. Proceedings of the American Academy of Arts and Sciences 18: 192.

TYPE LOCALITY: Arizona: Cochise County: Mahoney's Ranch, near Ft. Huachuca.

TYPE SPECIMEN: J.G. Lemmon. July 1882.

TAXONOMIC UNIQUENESS:

DESCRIPTION: **Compact rosette of branches**, generally less than 10.0 cm (4.0 in.) in diameter, **typically flat against ground**, although the outer ends of branches may turn upward somewhat. Alternate leaves are compound with 9-13 ovate leaflets of 3.0-5.0 mm (0.12-0.2 in.) long, gray-green in color and glabrous above and sparsely pubescent underneath. **Leaflets appear folded along midrib. Inflorescence very compact and globose**, ca. 1.0 cm (0.4 in.) in diameter, somewhat resembling clover inflorescence. Flowers about 6.0 mm (0.24 in.) long with petals whitish with pale purple tips. Fruits are small oval pods 8.0-10.0 mm (0.32-0.4 in.) long and 3.0-4.0 mm (0.12-0.16 in.) in diameter. Pods indehiscent. Mature fruits typically pale yellowish toward base and are purplish toward tip.

AIDS TO IDENTIFICATION: The dense, subcapitate inflorescence with mat-forming growth distinguish this from others in the area.

ILLUSTRATIONS: USFWS Line Drawing.

TOTAL RANGE: Southern Arizona.

RANGE WITHIN ARIZONA: Cochise County: Huachuca Mountains; Santa Cruz County: Patagonia mountains.

SPECIES BIOLOGY AND POPULATION TRENDS

GROWTH FORM: Herbaceous perennial.

PHENOLOGY: March - April with fruit into May; Plants have dried up by June.

BIOLOGY: Seeds may be heavily parasitized by chalcid wasps.

HABITAT: Open, limestone rocky clearings in oak-juniper-pinyon woodland. Found on hillsides with slopes of 25 to 30 percent. Generally unshaded. Distinctive during the summer when other *Astragalus* have

died back. May be dependent on some mild disturbance regime. Bear Creek population in on Lone Mountain Allotment.

ELEVATION: 5,300 - 6,100 feet (1590-1861 m).

EXPOSURE: Southerly to southwesterly.

SUBSTRATE: Loosely consolidated, very gravelly or cobbly soil of limestone/metamorphic mix (association with limestone uncertain).

PLANT COMMUNITY: Openings in woodland of Emory oak, Mexican blue oak, alligator juniper and Mexican pinyon.

POPULATION TRENDS: High mortality due to drought in 1989-1990. See Gori et al. (1990) for demographic information. The populations show huge fluctuations in relation to the amount of rainfall.

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: None (USDI, FWS 1996)
[Category 2 USDI, FWS 1993]
STATE STATUS: Salvage Restricted (ARS 1993)
OTHER STATUS: Bureau of Land Management Sensitive (USDI, BLM AZ 2000)
Forest Service Sensitive (USDA, FS Region 3 1999)
[Forest Service Sensitive USDA, FS Region 3 1990]

REASONS FOR ENDANGERMENT: Trampling by recreationists and livestock; degradation of habitat due to livestock grazing.

SUSCEPTIBILITY TO HUMAN DISTURBANCE: Limited range and small numbers of plants make this species susceptible to human disturbance.

MANAGEMENT FACTORS: Improvement of livestock management. Evidently the population in Bear Canyon was extirpated due to excessive livestock trampling.

CONSERVATION MEASURES TAKEN: Monitoring plots established in 1988 at the Patagonia Mountains (Harshaw Road) population. Additional monitoring plot at a Huachuca Mountains population (Bear Canyon) established in 1989.

SUGGESTED PROJECTS: Continue monitoring/surveying. Consider plant when developing the Lone Mountain AMP.

LAND MANAGEMENT/OWNERSHIP: USFS - Coronado National Forest, and private (Scotia Canyon).

SOURCES OF FURTHER INFORMATION

LITERATURE CITATIONS:

Arizona Revised Statutes, Chapter 7. 1993. Arizona Native Plant Law. Appendix A:8.
Barneby, R.C. 1964. Memoirs of the NY Bot. Garden. 13:1028-1029.

- Gori, D.F., P.L. Warren, and L.S. Anderson. 1990. Population studies of sensitive plants of the Huachuca, Patagonia, and Atascosa Mountains, Arizona. Prepared by The Nature Conservancy for Coronado National Forest. 114 pp.
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- USDA, Forest Service Region 3. 1990. Regional Forester's Sensitive Species List.
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- USDI, Bureau of Land Management. 2000. Arizona BLM Sensitive Species List. Instruction Memorandum No. AZ-2000-018.
- USDI, Fish and Wildlife Service. 1993. Plant Taxa for Listing as Endangered or Threatened Species; Notice of Review. Federal Register 58(188):511518.
- USDI, Fish and Wildlife Service. 1996. Endangered and Threatened Wildlife and Plants: Review of Plant and Animal Taxa that are Candidates for Listing as Endangered or Threatened Species; Notice of Review. Proposed Rule. Federal Register 61(40):7595-7613.
- Warren, P.L., L.S. Anderson, and P.B. Shafroth (The Nature Conservancy). 1989. Population studies of sensitive plants of the Huachuca and Patagonia mountains, Arizona. For USFS Coronado National Forest. 99 pages.

MAJOR KNOWLEDGEABLE INDIVIDUALS:

- Mima Falk - U.S. Fish and Wildlife Service, Tucson, Arizona.
- Dave Gori - The Nature Conservancy, Tucson, Arizona.
- G.A. Levin - San Diego Natural History Museum, San Diego, California.
- Jim Malusa - The Nature Conservancy, Tucson, Arizona.
- Peter Warren - Tucson, Arizona.
- T.R. Van Devender - Arizona-Sonora Desert Museum, Tucson, Arizona.

ADDITIONAL INFORMATION:

This species is sometimes found in ditches along roadsides. It appears to respond favorably to some disturbance.

Revised: 1989-10-25 (SST)
1991-10-18 (BKP)
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